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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/670,179 | 09/23/2003 | Gerald Schochetman | 12636.796.301 | 2226 |

21971 7590 12/22/2006

WILSON SONSINI GOODRICH & ROSATI
650 PAGE MILL ROAD
PALO ALTO, CA 94304-1050

| EXAMINER | |
|---|---|
| WANG, SHENGJUN | |
| ART UNIT | PAPER NUMBER |
| 1617 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 12/22/2006 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/670,179 | SCHOCHETMAN ET AL. | |
| | Examiner | Art Unit | |
| | Shengjun Wang | 1617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-12 are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

This application is a continuation of US application No. 09/606,967.

1. Applicant is advised that should claim 10 be found allowable, claim 12 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### *Claim Rejections 35 U.S.C.§ 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dornadula et al. (IDS) and Moulton et al. (IDS) in view of Stephenson (IDS), Mitsuya et al. (US 4,879,277, IDS), Priel et al. (U.S. 5,422,344, IDS) and Pardee et al. (US 5,641,773, IDS).

Dornadula et al. discloses a method for treating an HIV-infected host comprising administering to the host with HAART, which comprising pharmaceutically effective amounts of the reverse transcripts inhibiting antiretroviral agent, zidovudine, and the protease inhibiting antiretroviral agent, indinavir (See page 1628, column 1, line 33 through column 2, line 7, page

1629, the Table). Dornadula et al. also discloses that the HIV-1 plasma viral load was maintained (below 50 copies per mL) for patient on HAART comprising zidovudine and indinavir (see the table at page 1629). Dornadula et al. also discloses that latent reservoirs of HIV have been detected in memory-T cells (CD4+) in patient treated with HAART with an undetectable plasma viral load (See page 1628, column 1, lines 5-23, page 1631, column 1, lines 12-31, column 3, lines 40-47).

Moulton et al teaches a method of inducing apoptosis and effectively inhibiting HIV-1 reactivation in latently infected lymphocytic cell, which is a model for HIV latency, comprising contacting the infected cell with 9-nitro-20(S)-camptothecin (see page 40, column 2, lines 7-11, page 42, column 1, lines 44-57, page 44, column 2, lines 22-31, page 46, column 1, lines 17-19, column 2, lines 27-32, 45-46). Moulton et al also discloses that 9-nitro-20(S)-camptothecin is orally administrable (see page 40, column 1, line 60 through column 2, line 2).

The primary references do not teaches expressly the employment of the combination of HAART, which comprising pharmaceutically effective amounts of the reverse transcripts inhibiting antiretroviral agent, zidovudine, and the protease inhibiting antiretroviral agent, indinavir, and 9-nitro-20(S)-camptothecin in the particular sequence herein claimed, including the step of detecting latent reservoirs of HIV in memory T cell of HIV-infected host, or the further employment of reestablishing the host's immune system.

2. However, Priel et al. further teaches that camptothecin derivatives, including 9-nitro-camptothecin, are known to be useful in blocking both initiation of the infection and replication of the retroviruses in host cells, thus reducing and eliminating retroviral production infected cells. The camptothecin derivatives are known to be useful, alone or in combination with other

antiretroviral agents for treating retroviral infected host, including HIV infected human. See, particularly, the abstract, column 2, line 52 bridging column 4, line 60. Stephenson teaches that the presence of reservoir of latent in memory CD4 T cell is an expected outcome from the treatment of a patient with highly potent antiviral drugs. The detection step herein is not seen to be critical since it would only serve to confirm what is already a necessary feature of treating HIV-infected patient with HAART (see page 2, line 28 bridging page 3, line 1). Mitsuya et al. and Pardee et al. teach that treating HIV infection with antiviral agent in conjunction with immune modulating therapy, such as bone marrow transplant, or employment of known immune modulating agents herein, such as interferon, interleukin etc. See, particularly, column 20, line 66 bridging column 21, line 13 in Pardee et al. and column 5, lines 41-45 in Mitsuya et al.

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed the invention was made, to employ 9-nitro-20(S)-camptothecin, an camptothecin derivative, camptothecin derivative for treating HIV-1 infected host whom has been treated with HAART and has a low to undetectable plasma HIV-1 viral load, and further to reestablishing the host immune system.

A person of ordinary skill in the art would have been motivated to employ 9-nitro-20 (S)-camptothecin, an camptothecin derivative, for treating HIV-1 infected host whom has been treated with HAART and has a low to undetectable plasma HIV-1 viral load, and further to reestablishing the host immune system because the HIV-1 plasma viral load was maintained (below 50 copies per mL) for patient on HAART comprising zidovudine and indinavir, and that latent reservoirs of HIV have been detected in memory-T cells (CD4+) in patient treated with HAART with an undetectable plasma viral load, and 9-nitro-20(S)-camptothecin, is known to be

useful for inducing apoptosis and effectively inhibiting HIV-1 *reactivation* in latently infected lymphocytic cell, for blocking both initiation of the infection and replication of the retroviruses in host cells, thus reducing and eliminating retroviral production infected cells. Reestablishing the host immune system is obvious because treating HIV infection with antiviral agent in conjunction with immune modulating therapy, such as bone marrow transplant, or employment of known immune modulating agents herein, such as interferon, interleukin etc. are known. Treating HIV infected patient who also suffer from Kaposi's sarcoma, Hoggkin's lymphoma or non-Hodgkin's lymphoma, with the method is obvious because such neoplastic disorders is commonly associated with HIV infection. Absent evidence showing unexpected benefit to this subgroup of population, the claimed method is obvious as discussed above. Also Moulton particularly teaches that camptothecin compounds are particularly useful for treating AIDS associated neoplastic disorder because of the dual therapeutic advantages. See, page 47, the right column. Further, selection of a route for administration of a known pharmaceutical agent is considered within skill of artisan.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shengjun Wang whose telephone number is (571) 272-0632. The examiner can normally be reached on Monday to Friday from 7:00 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, can be reached on (571) 272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHENGJUN WANG
PRIMARY EXAMINER

Shengjun Wang
Primary Examiner
Art Unit 1617